



Title:

What Predicts Pre-Service Teacher Use of Arts-Based Pedagogies in the Classroom? An Analysis of the Beliefs, Values, and Attitudes of Pre-Service Teachers

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teachers value the arts; however, this was not related to their plans for future use of arts in the classroom. Pre-service teachers' perceptions of personal creativity and ability to overcome systemic constraints were highly predictive of plans for future use. Implications for policy and practice are included.

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What Predicts Pre-Service Teacher Use of Arts-Based Pedagogies in the Classroom? An Analysis of the Beliefs, Values, and Attitudes of Pre-Service Teachers

Abstract

Arts-based pedagogies have a positive, significant impact on various student academic-related outcomes. University teacher preparation programs may want to consider *pre-service* teacher beliefs, values, and attitudes toward arts-based pedagogies in order to better support teacher growth in using these arts-based approaches. In this study, we administered the *Teaching with the Arts* survey to 160 pre-service teachers. Survey results suggest that, although pre-service teachers value the arts, it is not related to their future plans for the use of arts in the classroom. Pre-service teachers' perceptions of personal creativity and ability to overcome systemic constraints were highly predictive of plans for future use, with implications for policy and practice.

The President's Committee on the Arts and Humanities (PCAH) recently released their report that strongly supports *arts-based pedagogies* as an effective and cost efficient way to address teachers' and students' needs in our schools, referring to arts integration as "the most significant innovation in the field over the last two decades..." (2011, p. 40). Research supports this claim, suggesting that arts integration has a significant impact on various student academic-related outcomes (Lee, Patall, Cawthon & Steingut, 2015), (Deasy, 2002), (Podlozny, 2000). Research suggests that teachers' beliefs are more malleable as pre-service teachers rather than later as classroom teachers (Decker & Rimm-Kaufman, 2008), (So & Watkins, 2005). Additionally, a pre-service teacher's identity is developing in response to, and situated within, the teachers' contexts and experiences (Trent, 2013). It follows that university teacher preparation programs may need to consider *pre-service* teacher identity, values, and attitudes toward arts-based pedagogies in order to better support teachers' use of innovative approaches in their future classroom.

Arts-based pedagogy

Arts-based pedagogy, or arts integration, is a pedagogical approach that uses one or more art forms (e.g., visual arts, music, drama, or dance) to deepen understanding and support non-arts and arts curricular learning objectives in the classroom (Bowell & Heap, 2001), (Burnaford, Aprill & Weiss, 2009), (Dohahue & Stewart, 2010), (Luftig, 2000), (PCAH, 2011), (Silverstein & Layne, 2010). *Arts-based pedagogies* (ABP) describes arts-based teaching and learning strategies led by a facilitator to engage students in learning in both non-arts content (e.g., geometry, social/emotional skills, etc.) and arts content through a process rather than product oriented experience. In other words, *ABP* focuses on how students learn and engage with material rather than the final product or outcome. The balance between the arts and non-arts knowledge and skill development goals can be thought of as a double helix where the arts and non-arts learning objectives are intertwined (Bowell & Heap, 2001), and teachers may choose to focus on one or both outcomes at different times during the process. (Sample arts-based lesson developed by Authors, Appendix A).

This approach has been widely researched as a viable choice among evidence-based instructional practices that have a positive, significant effect on a constellation of student academic-related outcomes (Lee, et. al, 2015), (Deasy, 2002), (Winner & Hetland, 2000). For example, Moore and Caldwell (1990) found that students who participated for 15 weeks in 45-minute arts-based sessions that focused on developing characters had significantly greater gains in their writing skills than students who received the instruction in language arts during the same period. Another study (Saricayir, 2010) found that middle school students who were randomly assigned to an arts-based intervention had a significantly better understanding of electrolysis of water than students who were taught in a traditional lecture format. Taking a broader look at the effects of arts-based pedagogies, A+ schools that implemented a four year district-wide reform using arts integration in all subjects found that student attitudes toward schools, attendance, as well as academic achievement were significantly improved compared to control schools (A+, 2001). In short, researchers have shown throughout multiple studies that arts-based pedagogies have a positive effect on student achievement as well as other academic-related outcomes. How might we find ways to support teachers in their training to use arts-based pedagogies in their classrooms?

Possible-selves

The theory of possible-selves suggests that people have views of future selves that are both positive and negative (Cross & Markus, 1991), (Markus & Nurius, 1986). For example, a teacher may have a positive possible self that manages classroom behaviors through redirection or offering choices, whereas that same teacher may have a feared or negative possible self that manages classroom behaviors by yelling or using threats. These possible selves can be a part of a teacher's identity and will likely motivate and regulate current and future beliefs and behaviors (Cross & Markus, 1991), (Markus & Nurius, 1986). Going back to the example, if a teacher wants to offer choices to her students, she may observe and attend to another teacher who uses strategies that offer that opportunity.

Possible-selves theory may be most useful when considering people in transitional periods of life. For these people, considering whom you want to be, and, conversely, whom you do not want to be, is salient. Pre-service teachers may benefit from understanding and elucidating their possible-selves to help move them toward the positive and away from the negative future self-concepts. Additionally, possible-selves are thought to be strongly influenced by social context and experiences, and therefore, are likely representative of a person's value or perceived value of something (Hamman et. al, 2010). In other words, if a teacher took drawing classes as a child and has grown up to value visual arts, then his or her future self may include someone who is motivated to attend gallery art shows or practice drawing on a regular basis. It's likely that the context and content of learning matters as teachers consider their possible-selves.

Taking this into consideration, pre-service teacher possible selves can include unlimited variations for future projections, but all must be connected to their current conception of self (Hamman et. al, 2010). Pre-service teachers are in a constant state of transition in identity and understanding as they move between being students and student teachers and then move on to being professional classroom teachers (Graue, 2005). During this transitional time, pre-service teachers form and reform their beliefs as a negotiation of past experiences, future ideals, and competencies, among other things (Graue, 2005), (Trent, 2013). Through an iterative process of observation, experimentation, and revision, pre-service teachers define their possible-selves of whom they want to be as classroom teachers. These possible-selves, however, will be formed by their experiences in and out of the classroom.

One study of pre-service teachers found that they rarely included innovative technologies or inclusion of students of different abilities in their possible-selves. Upon closer analysis, the absence of these topics in teacher preparation programs or in field placements inhibited the teacher's ability to include it in a possible self-concept (Hamman et. al, 2010). If pre-service teachers are not exposed to the practice of arts integration and/or they do not identify themselves as teachers who will use arts-based approaches, then they will likely dismiss this research-based pedagogical approach. In this paper, we propose that pre-service teachers who value and are exposed to arts-based strategies have the potential to include these ideas into their possible-selves and, therefore, may anticipate using these strategies in their future classrooms.

Teacher beliefs, values, and attitudes toward arts-based pedagogy

In a seminal study on teacher beliefs about the arts and arts-based pedagogies, Oreck (2004) found that in-service educators believed that the every child should have access to the arts—even suggesting that they had equal value to other curricular topics. However, these same teachers had a low incidence of using arts-based instructional strategies. Teachers who

voluntarily had attended an arts-based pedagogy workshop were significantly more likely to use strategies in the classroom. Because attendance was voluntary, no causal statement can be made. It may be that teachers had already identified as a teacher who will or will not use arts-based pedagogy before becoming a classroom teacher. For these teachers, they seek professional development experiences that align with that identity. For teachers who did use arts-based strategies, researchers found that a teacher's self-image and self-efficacy for creative activities was the strongest predictor for use of arts integration in the classroom (Oreck, 2004). This finding seems to support the connection between a teacher's level to which arts integration is a part of their professional identity and her perceived capacity to enact this pedagogical approach.

Research suggests that systemic support and opportunities to enact new ideas is one of the strongest predictors of implementation of innovative instructional strategies (Guskey, 2002). In other words, if teachers thought the administration and community surrounding the classroom supported an innovative idea, then the teacher was more likely to use it (Guskey, 2002). In line with this finding, Oreck (2004) found that a teacher's perception of the greater systemic constraints to arts integration predicted a less frequent use of arts integration strategies. In other words, if a teacher perceived that the system around her was not an obstacle, then she was more likely to use an arts-based pedagogical approach to the curriculum. Alternatively, past experience with the arts and current arts practices outside of the school setting were not significant predictors for frequency of using arts integration strategies. In sum, a teacher who thought she was creative and capable of overcoming systemic constraints, was more likely to integrate the arts into the classroom.

The purpose of this study was to investigate what *pre-service* educators believe about arts-based pedagogies and their own future use of them in the classroom. This survey research study was guided by three research questions:

- 1) Do pre-service teachers value the arts and arts-based pedagogy?
- 2) What personal characteristics predict the potential relationship between characteristics of pre-service teachers and their future use of arts-based pedagogy?
- 3) To what extent do pre-service teachers have an image of a future self that will use arts-based pedagogy?

Methods

Sample

This sample consisted of 160 pre-service teachers enrolled in education-related coursework. Participants were 96% female, ranging in age from 18-23 and representative of the students majoring in teacher education at a large research university. We attempted to have an equal representation of elementary and secondary teachers; however, we had limited access to secondary pre-service teachers due to out-of-department curriculum requirements at the university and limited sampling available from the human subjects pool. A total of 80% of participants intended to teach in early childhood education (pre-K through second grades), 29% in upper elementary (fourth and fifth grades), 0% middle school, and 1% high school (ninth through twelfth grades) and 13% said that they would be specialist teachers in subjects such as Chinese, art, science, and language arts.

Measures

We adapted Teaching the Arts Survey (Oreck, 2004) with the author's guidance. It was necessary to change some of the language to make the measure relevant for pre-service teachers. Specifically, this new version of the survey discusses "future" practices in the classroom for pre-service teachers rather than "current" practices in the classroom for in-service teachers. The survey is a Likert scale ("strongly agree" to "strongly disagree"). Additionally, there were two open questions to gather qualitative data about motivations and preferred learning experiences. All data was either collected through the paper surveys or collected through an identical online survey to complete the electronic dataset (Appendix B).

Analysis

To answer research questions one and two, we conducted a principal components analysis on all the items to measure the importance of the arts and challenges with using the arts in the classroom. Items with low communality and/or complex loadings were removed from the analysis. To answer research question three, we collapsed the questions concerning the frequency of future use of the arts in the classroom to represent a continuous dependent variable. In addition, we dummy-coded for major, year in the program, race/ethnicity, and gender. These were added to the model as co-variates. We had very little missing data and therefore chose to not use imputations for missing data (Roth, 1994). After creating new variables based on the factor loadings, we conducted a regression analysis with various predictors of a pre-service teacher's future use of the arts in the classroom. All data analysis was done through SPSS software. After quantitative analyses were completed, we conducted a thematic content analysis for the two open-ended questions (Creswell, 1998). All research was approved by an institutional review board at the university.

Results

The principal components analysis with direct oblimin rotation presented loadings on to five factors accounting for 68.51% of the variance with a reliability of 70.20%. After consideration of the items included in each factor, we developed labels for each of the factors (Table 1). These factors included: 1) importance of the arts in a child's life; 2) importance of a child engaging in the arts; 3) perceived classroom constraints to arts-based approaches; 3) perceived systemic support of arts-based approaches; 4) self-efficacy and identity in creative activities.

Table 1.

Factor loadings for 'Teaching with the Arts' survey items

Factor Label	Items Loading on Factor	Sample Items
Importance of the arts in a child's life		"Read or attend a performance (e.g., to study a concept, culture, or time period)." "Listen to a piece of music (e.g., to study a concept, culture, or time period)."

Importance of a child engaging in the arts	<p>“Engage in theater activities (e.g. take on a role from a book, write a play).”</p> <p>“Engage in visual arts activities (e.g., draw a cartoon of a political situation, create a storyboard of major events).”</p>
Perceived classroom constraints to arts-based approaches	<p>“I am concerned that music, dance, and theater activities are too noisy or disruptive for the classroom.”</p> <p>“I won’t have enough space to use movement effectively in the classroom.”</p>
Perceived systemic support of arts-based approaches	<p>“I feel that I will have enough time to teach the arts along with the rest of the curriculum.”</p> <p>“In general, schools are supportive of innovative teaching approaches.”</p>
Self-efficacy and identity in creative activities	<p>“I consider myself an artist.”</p> <p>“I feel confident in my ability to facilitate visual arts activities.”</p>

We compared all means and standard deviations for each of the collapsed variables as listed in Table 2.

Table 2

Descriptive statistics for the factor variables.

Factors	<i>n</i>	M	SD
Importance of arts	154	11.86	1.95
Importance of engaging in arts	158	8.42	1.48
Perceived classroom constraints	156	10.17	2.76
Perceived systemic supports	155	9.52	2.20
Self-efficacy and self-identity	151	10.37	2.43
Frequency of future use	154	27.77	3.82

We regressed the frequency future use of the arts dependent variable on the independent factors listed in Table 1. The omnibus test was significant ($F_{(5, 137)} = 15.81, p < .001$); therefore, we proceeded with the regression analysis. Results suggested that the factors labeled as perceived classroom constraints and importance of the arts were not significant ($t = 1.57, p > .05$ and $t = -.91, p > .05$, respectively). However, three factors were significant, including: importance of engaging in arts, perceived systemic support, and self-efficacy and identity in creative activities ($t = 3.69, p < .001, t = 4.11, p < .001$, and $t = 3.63, p < .001$, respectively). Additionally, we used various demographic variables as co-variates including: race/ethnicity, gender, past experiences with the arts, past arts coursework, and past experience with specific art forms. None of these co-variates were significant in the model and none of the results changed from the previous regression model without covariates.

For the qualitative analysis, we analyzed pre-service teacher responses to two open-ended questions: 1) What do you feel is the strongest current motivation for you to use the arts in your future teaching practice? 2) What type of experience would help you to use the arts in your classroom?. We developed categories based on the responses. Categories of responses to the first question included: arts engage students, arts meet learning objectives, arts have a personal impact on the pre-service teacher, students learn differently, arts/creativity is important, and everyone should have access to the arts. In Table 3, we include the frequency of each statement appearing in the responses. If a response included more than one category, we marked both categories. Then we did a bi-variate correlation between the frequency of use variable and the motivation for using the arts to understand if there was a relationship between a pre-service teacher’s use of arts-based pedagogies and their current motivation for using them. This was not significant ($r = .007, p > .05$).

Table 3

Example response to the prompt, “What is your strongest current motivation to use the arts in your future classroom?”.

Motivation for Using Arts	Number of Pre-service teachers	Example statement
Arts engage students	52	<ul style="list-style-type: none"> • “[Art] allows the students to have fun while they learn the material.” • “I feel that the students will be engaged and motivated to perform.”
Arts meet learning objectives	31	<ul style="list-style-type: none"> • “It can further students understanding of concepts and deeper their understanding.” • “Art is a great way to study different culture and connecting to them.”
Arts have a personal impact	30	<ul style="list-style-type: none"> • “I am a very visual person and love hands-on activities.” • “My teachers used music, videos, art and other forms to teach me in school, and I felt they were really fun and easier to learn.”
Students learn differently	24	<ul style="list-style-type: none"> • “[Art helps] to reach students who learn in different ways—differentiation.” • “[Art] allows for a different way for students to learn the material.”
Arts/creativity are important	20	<ul style="list-style-type: none"> • “I believe creativity and exposure to the arts supports a more well-rounded education.” • “Creative people benefit later in life.”
Everyone should have access to the arts	6	<ul style="list-style-type: none"> • “Give all students equal exposure to arts.” • “The arts programs are getting cut and I think it's important that children are exposed to them.”
Left blank	8	

We categorized the responses to the question for types of learning experiences pre-service teachers would use to help learn arts-based pedagogies in the classroom (see Table 4). Responses included six categories: observations of teachers using strategies, coursework in arts-based pedagogies, videos (YouTube) of teachers using strategies, workshops specifically addressing arts-based strategies, using personal past experiences, or partnering with local arts organizations.

Table 4

Frequencies for how pre-service teachers want to learn arts-based pedagogies.

Type of Learning Experience	Frequency of Pre-Service Teacher
Observations	70
Coursework	48
Video	35
Workshops	15
Personal past experiences	13
Local arts organizations	2

Taken together, the quantitative and qualitative analyses present a picture of pre-service teachers' perceptions of arts-based pedagogies, and, in particular, what may support or hinder the use of these teaching and learning strategies in the classroom. In the final section, we situate these findings in the research literature and discuss implications for teacher education programs and practice.

Discussion

Many arts-based pedagogies have proven to have positive, strong effects for academic and artistic achievement in the classroom (Lee, et. al, 2015), (Walker, 2011). It is vital that future teachers are prepared to use these strategies to meet the student and curricular needs in the classroom. Just as in the previous study, teachers' value of the arts had the highest mean, suggesting that this had the strongest agreement among the sample. However, these findings suggest that, in order for pre-service teachers to use arts-based strategies, future educators need to also focus on personal beliefs and practices of creativity, as well as be aware that students benefit from engaging in the arts. Additionally, administrators need to continue to provide the structure to support these types of innovative approaches to the curriculum.

This research builds upon and aligns with past research with in-service educators. The earlier study with in-service teachers showed that, in general, teachers value the arts (Oreck, 2004), a finding that was also evident in this study. Additionally, this study aligns with the previous study by suggesting that pre-service teachers who are more efficacious in creativity are more likely to incorporate a possible self that includes using arts-based strategies in their future classroom. Since there is a similar pattern among pre- and in-service teachers, it may be that teacher development needs to incorporate opportunities for teachers to broaden their ideas about what it means to be an artist and creative.

It may be that programs can help pre-service teachers to think about how their beliefs and practices align with arts integration strategies through coursework and classroom observations. In order to shift a teacher's possible self to include using arts-based approaches, these experiences need to encourage observation, evaluation, and revision of how each teacher could use an arts-based pedagogical approach in the classroom. This data shows that the prevailing reason pre-service teachers are motivated to use arts-based strategies is because it engages students. It is also important for them to understand research that suggests a positive, significant effect on academic attitudes and achievement (Lee, et. al, 2015), (Deasy, 2002), (Podlozny, 2000).

The PCAH calls for more arts-based pedagogical work at the university level. As multiple universities have created arts-based pedagogy courses (e.g., University of Texas at Austin, Stanford University, and Ohio State University), they may need to tailor their goals to include a broad definition about what it means to be creative in order for pre-service teachers to incorporate this in their identity of possible-selves. This may include: finding out what creative tasks students enjoy; facilitating a unit on creativity before looking at specific arts strategies; and/or encouraging multiple variations of arts integration strategies that fit within a teacher's perceived level of creativity. Additionally, pre-service educators may benefit from reading research that supports arts-based pedagogies to better understand the documented ways that this pedagogical approach can impact students. Finally, university teacher educators need to help pre-service teachers think through the process of negotiating systemic constraints and supports of arts-based approaches. For example, how might a teacher advocate for innovative practices in her classroom? What research may be most relevant for administrators to understand?

As arts integration research continues to grow in depth, breadth, and rigor, we may want to consider focusing future work in this area to consider an in-depth look at the characteristics of educators who use arts integration on a regular basis. Rather than relying on self-report measures like this one, researchers may want to observe teachers using arts-based pedagogy and what, if any, characteristics they have in common. This could answer such questions as: 1) How do teachers perceive the use of arts-based pedagogy in the classroom? 2) What do teachers (pre-service and in-service) perceive as their possible-selves as they relate to arts-based strategies? 3) What systemic factors provide a context for this implementation? We are hopeful that current and future research and development in arts-based pedagogies will be a way to support teachers and their students in learning.

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Appendix A. Sample Arts-Based Lesson. Developed by Authors.

Grade Level: Middle School Social Studies

Topic: Civil War and President Lincoln

Texas Standards: (8) History. The student understands individuals, issues, and events of the Civil War. The student is expected to: (C) analyze Abraham Lincoln's ideas about liberty, equality, union, and government. as contained in his first and second inaugural addresses and the Gettysburg Address.

Essential Questions: What issues, individuals, and events helped shape Lincoln's ideas about liberty, equality, union, and government? How might Abraham Lincoln feel just before giving the Gettysburg Address? What types of difficult decisions was Lincoln facing? How might Lincoln's feelings and decisions relate to events of today?

Arts Question: How can arts-based strategies engage students in the complexities of historical moments?

ENGAGE: *What do you think of when I say Abraham Lincoln?* Take notes on blackboard.

Let's leave this iconography behind for a moment. We have a tendency to create these larger than life images and ideas about historical figures such as Lincoln and forget that he was a person who dealt with the complicated grey issues and had to make difficult decisions. Let's take a closer look at some of the challenges Lincoln might have been facing at the moment before he delivering his Gettysburg Address in 1863 during the Civil War.

ACTIVITY ONE: ROLE ON THE WALL

Now, taking this information into consideration, we are going to create a Role on the Wall of Abraham Lincoln. So here's an outline of Lincoln. Of course he has the fabulous hat, and why don't we give him that beard too?

Now we are specifically looking at the moment before Lincoln gave the Gettysburg Address. Ok, so thinking about what we've been studying for the last week, what are some of the positive individuals, events, or issues that might be affecting Lincoln right now? You can name people or specific events or issues (e.g., Mary his wife, slaves, abolitionists).

What are some negative messages and/or forces that Lincoln was hearing? You can name people or specific events or issues (e.g., union army, slave owners, states' rights advocates).

So now we are looking at the inside of Lincoln to do some inferencing. How might the events of the Civil War and these positive and negative messages have affected Lincoln as he prepared to address townspeople, widows, and politicians at Gettysburg? Let's look at _____. How might that make him feel? (Draw literal connections between feelings and voices.)

ACTIVITY TWO: PRESS CONFERENCE

Now that we have a better idea of what Lincoln was experiencing that cold morning on Thursday, November 19, 1863, I'm excited to tell you that in a few moments through the magic of theater, we are going to have the opportunity to interview Abraham Lincoln. For this next activity, I need three volunteers who will be collectively representing Abraham Lincoln.

I invite the rest of you to think from the perspective of the press. In a moment I will ask you to take on the role of the press corps asking President Lincoln questions before he gave his Gettysburg Address. I know I'm excited about meeting this great historical figure and want to make sure we have an idea of what kind of questions we would like to ask him. Let's brainstorm some questions, and I'll note them on this paper. What would you like to ask Lincoln? (E.g., How will you help southern states with their crashing economy? How do you expect to win the election with such a divided nation?)

Imagine with me that we are at a press conference where Lincoln has agreed to meet the public and answer questions about the war, emancipation and his future political aspirations. When I wrap this scarf around my neck, I will take on the role of the moderator for the press conference. Remember you can reference the questions that we have here and use the information on the blackboard or you may ask other questions that are relevant to this drama.

I want to thank each of you for taking time to be with us today here in Gettysburg, PA at the Soldier's National Cemetery. I know it is cold and damp but this will be an important moment in history as we dedicate this battlefield with more than 7500 dead soldiers. I appreciate your coming on short notice to meet President Lincoln and take advantage of this amazing opportunity to get some answers.

Thank you, President Lincoln for taking a moment before delivering your address to answer a few questions. Is that right? Well, thank you, and let's open it up for questions.

Since we have over 15,000 people waiting for you to give the Gettysburg address, I think we can only take one more question.

I'm going to pause our drama here. I love to see the way you were committed to the drama and the great questions that you were asking.

REFLECTION

DESCRIBE: What did we hear during the press conference? What was the general attitude toward Lincoln?

ANALYZE: Which of the messages and people that we have on our Role on the Wall did we hear about? What additional information was revealed during the press conference?

RELATE: How might these individuals, events, and issues have helped shape Lincoln's perspective decisions on liberty, equality, union, and government? When might you face difficult decisions that affect many people?

Appendix B. Sample Items from Teaching with the Arts Survey.

To what extent do you agree with the following statements?

Strongly **disagree**

Strongly **agree**

	1	2	3	4	5
17. I feel confident in my ability to facilitate dance activities.	1	2	3	4	5
18. I feel that I will have enough time to teach the arts along with the rest of the curriculum.	1	2	3	4	5
19. I consider myself an artist.	1	2	3	4	5
20. I am concerned that music, dance, and theater activities are too noisy or disruptive for the classroom.	1	2	3	4	5
21. I feel confident in my ability to facilitate music activities.	1	2	3	4	5
22. My instructors encourage teacher creativity.	1	2	3	4	5
23. I won't have enough space to use movement effectively in the classroom.	1	2	3	4	5
24. I feel confident in my ability to facilitate visual arts activities.	1	2	3	4	5
25. Students have trouble concentrating on other work after an arts activity.	1	2	3	4	5